

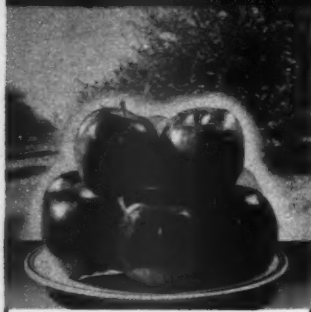
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Firestone

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ARE AS DIFFERENT FROM OTHER TRACTOR TIRES
AS SPRAYED FRUIT IS FROM ORDINARY FRUIT



Sprayed fruit has better color and finish, because of protection against codling moth worms and fungus diseases and brings a higher price.



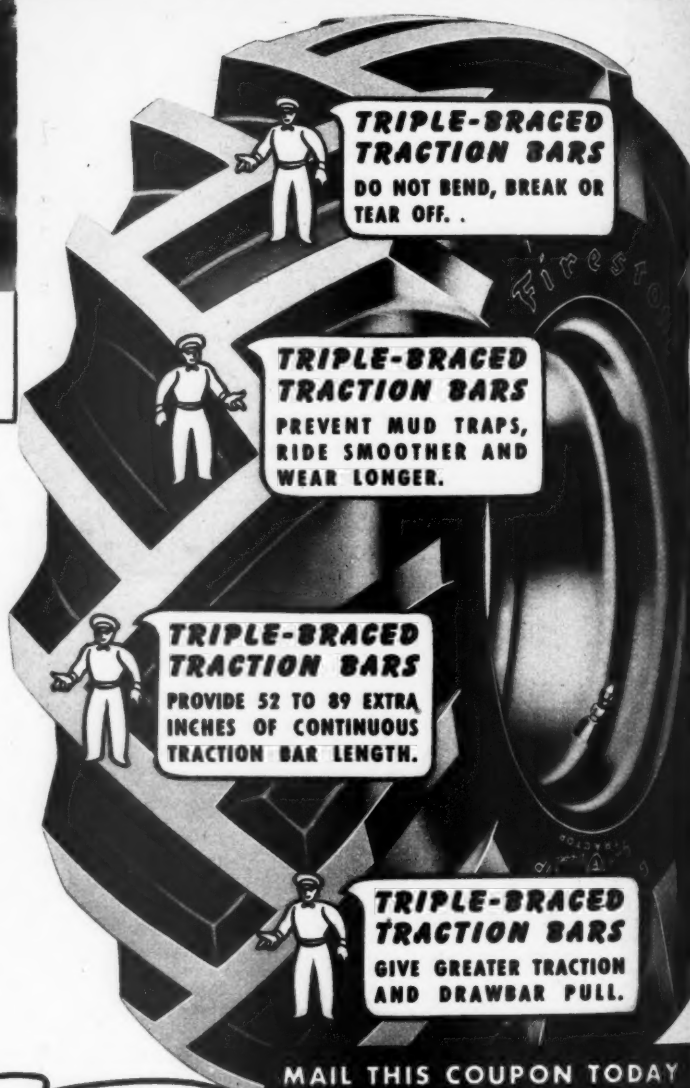
Fruit that has not been sprayed is usually spotted, wormy, diseased—difficult to sell and brings a lower price.

THE difference between a prize-winning crop and an ordinary crop is usually the result of *extra* effort and *extra* materials. And the difference between a Firestone Ground Grip Tire and an ordinary tractor tire is the result of *extra* advantages built into it.

These patented construction features are the result of Firestone's greater experience in building tires for farm machinery. It was Firestone that pioneered the first practical pneumatic tractor tire and put the farm on rubber. It was Firestone that discovered that unbraced traction bars bend and lose their grip. It was Firestone that developed and patented triple-braced traction bars, which provide 52 to 89 extra inches of traction bar length.

As a result of these exclusive construction advantages and *extra* rubber in the tread, Firestone Ground Grip Tires provide greater traction, automatic self-cleaning action, increased fuel economy and easier riding. Yet they cost no more than ordinary tractor tires!

If you are figuring on changing over your present tractor, your nearby Firestone dealer will gladly show you how little it costs. And when you buy your new tractor, order it equipped with self-cleaning Firestone Ground Grip Tires — *the greatest traction tires ever built!*



**BROKEN
TRACTION BARS
BEND AND SLIP!
BRACED
TRACTION BARS
ALWAYS GRIP!**

MAIL THIS COUPON TODAY

The Firestone Tire & Rubber Co., Akron, Ohio
Without obligation on my part, please send me (check below):
☐ A copy of the new Farm Guide Book.
☐ Information about the Firestone Farm Tire Payment Plan.
☐ Full details of the Firestone Tire Changeover Plan.
☐ Please demonstrate Firestone Ground Grip Tires with my own tractor on my own farm.
 Make and model of tractor.....
 Please demonstrate on..... (date)
 Name.....
 R. F. D. or Street Number.....
 Town.....
 County..... State..... D-1

**MORE TRACTORS ARE EQUIPPED WITH FIRESTONE
GROUND GRIP TIRES THAN ANY OTHER MAKE**

Listen to the Voice of Firestone with Richard Crooks, Margaret Speaks and the Firestone Symphony Orchestra, under the direction of Alfred Wallenstein, Monday evenings, over Nationwide N. B. C. Red Network. See Firestone Champion Tires made in the Firestone Factory and Exhibition Building at the New York World's Fair.

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RESIDUE TOLERANCES RAISED AFTER U. S. STUDY

RAISING of the tolerances for lead and arsenic on apples and pears shipped within the jurisdiction of the Federal Food, Drug and Cosmetic Act was announced on August 10 by Federal Security Administrator, Paul V. McNutt.

The new tolerances are .05 grain of lead per pound and .025 grain of arsenic per pound. They revise the order of September 19, 1938, issued by the Secretary of Agriculture, and are based on the results of an intensive three-year study made by the U.S. Public Health Service at the direction of Congress.

No change is made at this time in the tolerance for fluorine set by the Secretary of Agriculture on November 14, 1938, at .02 grain of fluorine per pound, since the Public Health Service did not include fluorine sprays in its investigation.

The new tolerances, in accordance with the recommendation of the Public Health Service, are specifically restricted to lead arsenate residues on apples and pears and are not extended to other food commodities.

The history of the tolerances set up by the Food & Drug Administration and now handled by the Federal Security Agency, is shown in the following figures:

U.S.D.A. Tolerances on Fruit— Grains Per Pound of Fruit

	As ₂ O ₃	Pb ^o
1928	.03	None
1929	.025	None
1930	.02	None
1931	.012	None
1932	.010	None
1933	.010	.014
1934	.010	.019
1935	.010	.018
1936	.010	.019
1937	.010	.019
1938	.010	.019
1939	.010	.025
1940 (present)	.025	.050

The change made, as will be noted, doubles the permissible amount of lead left on apples and pears and raises the arsenic tolerance from .01 to .025 grain per pound of fruit.

The new tolerances reflect the scientific character of the conclusions reached by the Public Health Service. The Public Health Service was asked, by the Federal Security Agency, (1) what, in the light of its investigations, it considers safe tolerances for lead and arsenic on apples and pears; (2) whether tolerances recommended for apples and pears are likewise applicable to other food commodities. In answer to these inquiries, the Acting Surgeon General said, in part:

"On July 9, 1940, the final report of an intensive study of 1231 men, women and children and a report of supplementary laboratory studies was forwarded to you and to the Commissioner of the Food & Drug Administration. The subjects of the field study lived in a district where large quantities of lead arsenate are used, and have been used for over 30 years, as an insecticide on apples and pears. In the light of those investigations, it is the opinion of the Public Health Service that a tolerance of lead arsenate on apples and pears may be placed at .05 grain per pound for lead, and for arsenic (arsenic trioxide) at .025 grain per pound without endangering the health of the consumers. The Public Health Service would not feel justified in stating that tolerances higher than these might not endanger the health of the consumer.

"In answer to your second question, since the above-mentioned investigations dealt only with lead and arsenic in the form of lead arsenate on apples and pears, these tolerances are not applicable to other food commodities."

SEPTEMBER, 1940

MORE COLOR! MORE APPLES! MORE PROFITS!

if you use

FRUITONE

Reg. U. S. Pat. Off.

The Tested Hormone Spray FOR PREVENTING PREHARVEST DROP

Last year's tests with our hormone chemicals showed what you can expect if you spray your trees with FRUITONE.

Holding the apples on the tree means that on the average ten-year-old tree FRUITONE would produce the following increase in harvest:

Williams Red	7.8	bushels more
Red Duchess	4.9	" "
Early McIntosh	7.8	" "
King David	4.2	" "
Delicious	6.4	" "
McIntosh	2.9	" "
Stayman	4.0	" "
York Imperial	2.6	" "
Rome Beauty	4.9	" "
Wealthy or Jonathan would produce	3 to 4	" "

THE COST

A ten-year tree can be thoroughly sprayed with 15c to 25c worth of FRUITONE. A big twenty-five-year tree will take 30c to 50c worth of FRUITONE. Roughly this means 1½c to 2c a bushel.

THE SAVING

With 20c worth of FRUITONE a ten-year tree will yield you 3 to 7 additional bushels with better color and size. A twenty-five-year tree will yield increases of 6 to 15 bushels for less than 50c worth of FRUITONE.

FIRST REPORT

A southern grower reports to us a premium of 50c per bushel for his FRUITONE sprayed Williams Red apples. He got \$1,000 more from his sprayed trees than from a similar number of unsprayed trees at a cost of \$44.00 for FRUITONE. Sprayed trees required only two pickings, against five pickings on the unsprayed trees.

5 lb. can makes 1,000 gals. of spray—25 lb. drum makes 5,000 gals. of spray.

AMERICAN CHEMICAL PAINT COMPANY

Horticultural Division AF-5

Ambler, Pa.

FRUITONE is Distributed by

CALIFORNIA SPRAY CHEMICAL CORP.

ELIZABETH, N. J.

RICHMOND, CALIF.

STRONG at the Taproots



DAY BY DAY a new menace—the gaunt specter of impending Famine—creeps into the news from Europe. It is an ugly threat, freighted with misery, disease and death. Famine strikes blindly and cruelly, ravaging all alike, the soldier and the civilian, the strong and the weak, the very old and the very young. It hits at the taproots of life, *for the first necessity of Mankind is food.*

In the world of today Americans may well take comfort—humbly and thankfully—from the fact that Famine will not reach this land. America alone of the Great Powers can feed all her people adequately and unfailingly from the produce of her own soil, and help to provide food for others. On this basic question of food, which underlies all preparedness, America is prepared beyond the dreams of other nations.

America's food security rests solidly on two assets which exist nowhere else in such numbers—*progressive farmers and modern farm machinery.*

America's farmers excel because they are the most alert, the most scientific, and the best-equipped of the world's farmers. They have made their wonderful production records because of those qualities, and because they use the most efficient production methods in the world.

Preparedness in nations which are farmed with crude tools by the muscle power of men and animals, inevitably means loss of vital crops and decline of food production as men are taken from the land. In our land, that is not true.

America will continue to produce her stocks of food, for the efficiency and strength of the American farmer are multiplied by his untiring aids, the tractor and the combine, the seeding machines, the mower, the corn picker and the motor truck. The American farmer, with their help, can do whatever task the nation sets him.

We take pride in that, because we have helped to make it true. For more than 100 years the industry of which this Company is a part has designed and built the farm machines that have made American farming one of the productive wonders of the world.

J. S. McAllister
President

INTERNATIONAL HARVESTER COMPANY
Chicago, Illinois

INTERNATIONAL HARVESTER

TRACTORS • FARM EQUIPMENT • TRUCKS • INDUSTRIAL POWER



ROYAL W. SMITH

MEET WINNER OF SPRAY NAME CONTEST

WINNER of the spray name contest with his prize winning title, "Harvest Spray," Royal W. Smith of Laconia, N.H., is pictured above standing in front of one of his nine-year-old McIntosh trees with his two children, Barbara and Stuart.

Upon receipt of the check for \$10, Mr. Smith said, "Naturally I am very much pleased at being fortunate enough to have my suggestion selected by the judges and I hope that the name will be adopted by the fruit growers."

Mr. Smith owns a young orchard of about 1000 trees and says he has a good, clean crop this year. He believes in diversification, for he also manages a 20-cow dairy in addition to his orchard.

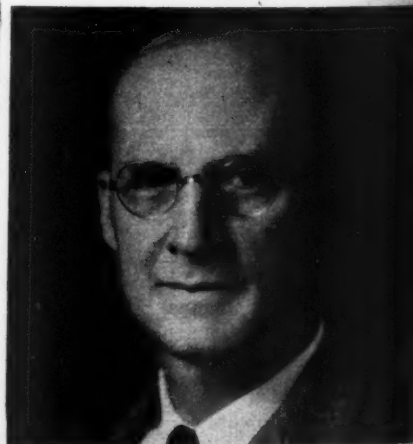
Mr. Smith graduated from the New Hampshire College of Agriculture in 1928 and since that time has been connected with the extension service as agricultural agent.

HEADS FLORICULTURE AT CORNELL

DR. L. H. MacDaniels, formerly of the Department of Pomology at Cornell University, was recently advanced to the position of head of the Department of Floriculture and Ornamental Horticulture at Cornell.

Dr. MacDaniels is president of the American Society for Horticultural Science, and holds membership in numerous other societies.

Co-author of the text, "Introduction to Plant Anatomy," Dr. MacDaniels is noted for his research on structure of plants, pollination of fruit and nut growing. He has also traveled widely collecting many rare specimens of plants.



L. H. MacDANIELS

SEPTEMBER

1940

No. 9

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AMERICAN FRUIT GROWER

The
NATIONAL FRUIT MAGAZINE

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FRUIT MAKES FRIENDS AT THE FAIRS

"THIS fruit looks wonderful. Can you tell me where I can get some apples like these for my winter's supply?" said a woman to the fruit judge at the state fair. A similar bit of conversation, often with an indefinite reply, is repeated every year at the county fairs, state fairs and other places where fruit exhibits are held.

And what would a fair be without its exhibits of choice fruits, representing the finest that a county or state can produce? And the purpose? Why, certainly, to attract and interest the visitors in the use of home-grown fruits, in stimulating the production of finer products, in adding a finish and refinement to the displays that only fruits can supply.

The recent meeting of the National Apple Institute in Pittsburgh, the raising of the tolerance of spray residues by the U. S. Public Health Service, the program of fruit tree removal which should be in effect by 1941, the new hormone sprays to prevent pre-harvest drop, the building of a by-products laboratory by the government, all represent important forces at work to better the lot of the fruit grower, to stabilize the industry and to take part of the hazards out of the business. What, then, can the individual do to further this movement of attracting the buyer to his product?

Some may feel that exhibiting at a fair would not help much. But it can be part of a well organized sales promotion program. It does its bit in winning the housewife to the fruits which are grown in your state or community and manifests a spirit of co-operation. For example, a number of years ago when the fruit industry of New England was at a rather low ebb some enterprising growers organized The New England Apple Show. It usually was held in Boston although at times in Worcester, Mass., and elsewhere. For the first time the people of New England, and the growers themselves for that matter, came to realize that the McIntosh, Baldwin, Rhode Island Greening and some others were grown to the height of perfection in that section. It can never be proven what part the fruit shows played in it, but it is a fact that the rebirth of the apple industry of New England came in the wake of those magnificent fruit shows.

Now, there is an art in showing fruit. The beginner rarely is successful in winning the top prizes, although we have known some conspicuous exceptions to this. Good sportsmanship and a willingness to learn are prime essentials in the show game. In the first place, only perfect specimens of attractive color should be selected. Then every apple, or other fruit, on a plate or in a box or tray should be like every other one. Uniformity is important when decisions are close. The fruit should be typical of the variety in size, color and shape, and, of course, the stems should not be broken or missing. If these cautions are observed, you have a good chance for a prize.

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NATIONAL AND INTERNATIONAL GROUPS STUDY APPLE OUTLOOK

NATIONAL APPLE INSTITUTE

National Apple Institute's two-day meeting, August 12 and 13, in Pittsburgh, featured reports on the size of the current apple crop and marketing plans for the disposal of the crop.

Members of the NAI learned that the total crop of commercial apples for 1940 is indicated to be 116,721,000 bushels compared with 143,085,000 bushels in 1939. Reports also indicated that probably three to four million

bushels would be marketed under the stamp plan for relief this year in addition to other apple distribution by the Federal Surplus Commodities Corporation.

In order to facilitate marketing of the crop, four special sales drives were recommended by the NAI to chain and independent grocers. The first drive is planned prior to Halloween.

Other matters discussed at the midsummer meeting were the new modifications of spray residues and the apple tree removal plan sponsored by the government which NAI voted to endorse.

Top, left—Albert W. Atwood (left), writer and lecturer, congratulates Dr. Eric Englund after his speech during International Apple Association convention.

Left—L. P. Batjer, U. S. D. A., displays a vial containing enough hormone spray material for 100 gallons, as Robert T. Bly looks on.

Top—Left to right: E. W. J. Hearty, New York; Frank H. Simpson, Flora, Ill.; W. H. Baggs, Pittsburgh; F. A. Motz, U. S. D. A.; Joseph A. Schwalb, New York.

Bottom, left—G. Warren French, New York (left), newly elected president of IAA, shakes hands with Harold Hoffman, former governor of New Jersey.

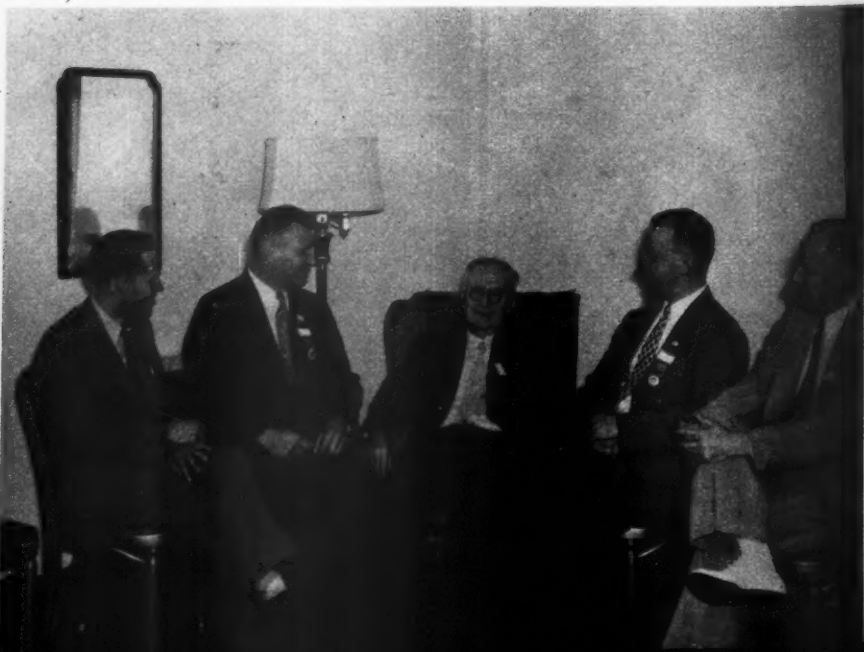
Bottom—Left to right: Elon Gilbert, Yakima, Wash.; William Schieferstein, Ontelaunee Orchard, Leesport, Pa.; F. H. Simpson, Flora, Ill.; C. W. Kohagen, Hood River, Ore.; E. L. Minard, Seattle, Wash.—all members of IAA special apple committee.

INTERNATIONAL CONVENTION

Forty-fifth annual convention of the International Apple Association was held in Pittsburgh starting August 14. More than 600 growers and marketers attended the three-day meeting and listened to experts speak on current problems before the apple industry.

Dr. Eric Englund and F. A. Motz, both of the U.S.D.A., spoke on various phases of marketing while Albert W. Atwood explained the high points in the business outlook and L. P. Batjer, U.S.D.A., talked about the new "Harvest" sprays.

G. Warren French, New York, was elected president; Paul W. Scea, Wenatchee, Wash., became vice-president; and Norbert Eschmeyer, Cincinnati, Ohio, treasurer.





No one is better qualified to forecast the outlook for the fruit industry than Dr. Eric Englund. For 14 years he has been an economist in the U.S.D.A. and today is assistant chief of the Bureau of Agricultural Economics. In addition to being a sound economist, Dr. Englund is a practical farmer and when not in Washington lives on his farm in Maryland.

LOOKING AHEAD

U.S.D.A. EXPERT ANALYZES OUTLOOK FOR FRUIT INDUSTRY AS IT IS INFLUENCED BY THE WAR

Of primary importance to fruit growers is the influence of the present world war upon the fruit industry. Dr. Eric Englund, assistant chief, Bureau of Agricultural Economics, U.S.D.A., in his address before the International Apple Association, evaluated the influence of the war on the outlook for fruits and vegetables by assuming three alternative ways for the war to end and by examining possible effects of our defense program on domestic fruit demand. AMERICAN FRUIT GROWER considers this subject important enough to warrant the following digest of the main points of Dr. Englund's address.

IF TOTALITARISM WINS

Europe, the Mediterranean and the larger part of Africa would be dominated by the Axis powers under the leadership of Germany. This probably would result in a sharp reaction to market outlet and prices for our principal international commodities—cotton, tobacco, wheat, fruit and pork. Although a Europe so dominated undoubtedly would continue to need large supplies of these commodities, it is doubtful that she would have the necessary buying power in terms of dollars, or even the official inclination, to buy large quantities of our surpluses of these products through normal channels of trade.

It is apparent that our largest agricultural export market, which previously took nearly three-fourths of our farm exports, would be under the domination of a single government.

(Continued on page 10)

IF THE WAR ENDS IN A NEGOTIATED PEACE

We should not assume that we should return to normal trade relations. We should probably be confronted with a much more severely channelized trade than we experienced before the present war began. It is unlikely that such control devices as purchasing commissions, exchange quotas, preferential treatments, etc., would be demobilized soon upon the conclusion of a negotiated peace.

We would be confronted for some years at least with far greater regimentation of international trade than we have experienced heretofore.

We should still be confronted with the probability that for some time international trade would be more a matter of dealings between governments and between their control agencies than we have been accustomed to even of late.

IF A LONG WAR, AND IF LIBERALISM WINS

In the case of a long, drawn-out war the possibility of price inflation would become greater. We probably should not expect any significant tendency toward price inflation . . . until the general demand for goods begins to press against the existing capacity to produce.

Even this would not necessarily result in serious inflation, for we have more control over inflationary tendencies now than we had some years ago.

In the event of a long, drawn-out war, it is most hazardous to predict now what might come. Final victory for the nations that will hold to the principle of liberalism, even though they accepted regimentation of international trade as a current necessity, would leave us closer to the ultimate return of liberalism in trade.

INFLUENCE OF DEFENSE PROGRAM ON OUTLOOK

An indirect effect of the war will appear through the influence of our defense program on business activity and consumer demand in this country. It is well known to all that there is a direct relationship between industrial activity, consumer income and domestic demand for farm products.

The degree of improvement resulting from a given increase in buying power varies with different commodities. Fruits and vegetables as a general class are sensitive to changes in consumer demand. It may be expected that the domestic demand for fruits

and vegetables will improve significantly with an increase in consumer buying power.

Our defense program will unquestionably increase the demand for labor and expand activity in factory, transport, trade and many other lines. The defense forces will require many men. All of these demands will reduce unemployment and increase the money income of the masses of the people. This should mean stronger home demand for agricultural products, including fruits and vegetables, and this improvement is likely to be felt more

in the commodities which are not on an export basis.

Although substantial improvement in business activity and consumer demand may be expected when the defense program gets under way, we should not indulge in the easygoing assumption that this huge national defense effort will really cost us nothing and that we shall get from it not only national defense but also prosperity, better home markets and better times in general.

It may be that much will be accomplished.

(Continued on page 10)

CUTTING BACK YOUNG APPLE TREES

By T. J. TALBERT

University of Missouri

IN the spring of 1924, it was deemed advisable to begin cutting-back experiments with young apple trees. The objective was to determine the best time for cutting back trees to ascertain the effect upon the habit of growth, and to note what influence, if any, the operation might have on time of coming into bearing. The varieties employed were Jonathan, Grimes Golden, Golden Delicious, Delicious, Winesap, Stayman Winesap, Rome Beauty and Gano.

This later work confirmed the earlier investigations and showed that almost invariably the cut-back trees produced lower and better placed branches with wider angles than the untreated ones. In about four or five years after being cut back, the trees are practically as large, and in some cases larger, and have as great a spread of branches as the untreated ones.

Moreover, the study seems to indicate that for one and two-year-old

apple trees, it is generally best to cut them back to stubs or stumps about four inches high. A sufficient number of sprouts usually arise from the stump to give a choice as to position and vigor. The sprout which best meets the requirements is left, and all the others are removed. It is usually advisable to start thinning or making sprout selections and removals when the growth is about six to eight inches high. The largest and best placed shoot should be saved and all the rest removed close to the stump. The shoots or sprouts arising from the stumps first grow outward and then upward, forming a slight bend or curve in the trunk.

It was also observed that there was a tendency for the sprout or shoot arising from stumps eight to 10 inches high to produce a long, straight, whip-like growth, often without limbs or side branches. This type of growth was common enough on all the standard varieties to make it more or less significant, and was much less noticeable when the stumps were short, four or five inches high. There is also less danger of breaking the sprouts off with short stumps than with long ones, and the framework of the resulting trees may be formed closer to the ground.

It seems best to leave a stub four or five inches long, even if a sprout nearer the ground is left and it is necessary to recut the stump on an angle just above the sprout. Trees cut too near the union of stock and scion have a greater tendency to produce suckers from below the graft union. Aside from the fact that the grower may have difficulty in recognizing the worthless suckers, these may interfere materially, unless promptly removed, in getting satisfactory sprouts to arise from the stump above the graft union.

To determine the best time for cutting back young apple trees, test cuttings were made in 1924, 1926, 1928, 1930 and 1939. Starting during the last week of March, lots of trees of the standard varieties, ranging from six to 10 each, were cut back at intervals of about two weeks up until June 1, inclusive.

During years when good growing conditions prevailed, including plenty of rain, the cut-back trees generally made satisfactory growth up until about May 1. Trees treated after this date did not usually sprout up from the stump as readily as did the earlier cut-back trees. In fact, if unfavorable weather conditions for growth occurred before and after the operation, only about 10 to 20 per cent of the stumps produced sprouts.

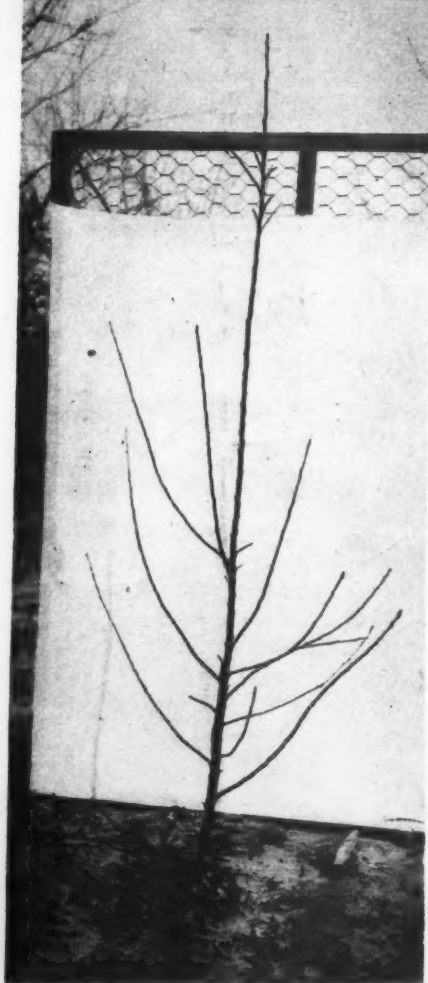
Results from many lots of trees ranging in numbers from a half dozen to 50 or more indicate that the best season for cutting back is early in the spring, just as growth is

(Continued on page 11)

An uncut-back Duchess apple tree planted as a one-year-old whip. When photographed, the tree had grown two full years in the experimental orchard. Compare with tree in photograph on right planted at the same time but cut back after a year's growth in the orchard.



Golden Delicious apple tree planted in the same lot and at the same time as tree in photograph on left. Cut back early in the spring after making one full year's growth in the orchard. Consequently, the top is the result of a year's growth from a short stump near the ground.



STATE NEWS

WASHINGTON—With a larger crop in prospect than in 1939, Washington State Apple Advertising Commission expects that the one-cent per box assessment will make available \$190,000 to \$195,000 for apple promotion purposes this year, according to Manager C. E. Chase. This compares with \$186,000 collected last season.

In addition to direct advertising, the commission will continue to encourage doctors to experiment with and make known the health value of apples. It will also release this season a movie to acquaint consumers with the industry. This will be in addition to the colored movie, "Orchards to You," now being shown to the trade.

Included also in this year's promotion program are a recipe booklet and book of matches. The sale of apples in 10-cent stores, which was tried successfully last season with units of two, four or six apples wrapped in cellophane packages, will be encouraged.

The full membership of the commission was recently reappointed by the Governor to serve for three additional years. Officers were also re-elected, as follows: President, C. M. Zediker, Cashmere; vice-president, W. G. Martin, Wapato; secretary-treasurer-manager, Major Chase, Wenatchee. The commission voted to co-operate with the National Apple Institute.

VIRGINIA—Philip H. Gold, outstanding fruit grower and businessman of Frederick County, was signally honored recently when he was presented with the certificate of merit awarded by the Virginia Polytechnic Institute. The award is presented to those who have shown themselves to be public spirited and who have made important contributions to Virginia agriculture.

In addition to extensive orchard interests in Frederick County and near-by West Virginia, Mr. Gold is president of the Frederick County Fruit Growers Association and the East Central Fruit Growers Production Credit Association.

CALIFORNIA—A phenomenal increase in the sales of summer oranges has resulted from the million-dollar promotion campaign of the California Fruit Growers Exchange being conducted throughout the United States and Canada, with particular attention to rural communities, reports Russell Z. Eller, advertising manager.

To August 1, sales of exchange valencias totaled 6,381,606 packed boxes compared with 3,841,992 boxes to August 1 last year. Sales of Sunkist juice extractors also showed an increase, 16,150 being sold to August 1 this year compared with 12,041 to the same time in 1939.

Eller also reports that lemon and soda advertising, now in its second year, has resulted in steadily increasing consumption of lemons.

Twenty-five of the 55 dealer service men employed by the exchange were hired for the valencia season and spend 75 per cent of their time in small towns and outlying communities.

KENTUCKY—The past winter's extreme temperatures had considerable effect on the profits of strawberry growers who did not mulch their fields last December. Yields during the 1940 berry season were cut 50 to 80 crates per acre, representing a loss of \$100 to \$150 per acre. Growers whose patches usually go unmulched because they

do not have a readily available supply of mulching material were urged by the Kentucky College of Agriculture to plant Sudan grass to insure having mulching material in December, 1940.

WEST VIRGINIA—This fall will see packing operations in full swing in the Consolidated Orchard Company's new packing house in Paw Paw. In this scientifically designed brick and hollow tile plant, located on the B. & O. Railroad, baskets and boxed fruit will be packed under the company's "Mountain-ear" label. It is expected 40 per cent of the main crop will be boxed. Latest Cutler revolving bin-type equipment designed for putting out wrapped boxes and individual consumer units constitutes one of the packing lines.

Output of the crop from about 1400 acres of producing orchards of Consolidated Orchard Company and Appalachian Orchards, Inc., also at Paw Paw, is handled by Consolidated Distributors, Inc. In connection with the modern packing houses in these orchards, each has a cold storage plant with capacity of over 100,000 bushels.

ILLINOIS—J. W. Heaton, pioneer fruit grower of New Burnside, passed away on July 19, at the age of 77 years. Mr. Heaton was a life member of the Illinois State Horticultural Society for 37 years.—JOE B. HALE, Sec'y, Kell.

NEW JERSEY—Decision of a group of New Jersey fruit growers to incorporate as the "New Jersey Co-operative Fruit Marketing Association" was announced August 8 by Kenneth R. Slamp, assistant extension economist in marketing at New Jersey College of Agriculture.

Furthering direct store delivery of New Jersey grown fruit will be the main purpose of the organization, according to Slamp. "The activity is a follow-up of an experiment in direct delivery of apples to retail stores made last year in the Camden area."

During the 24-week experiment, 16,500 bushels of apples were delivered direct from farms to retail stores. The plan also included

assistance in displaying the fruit and in merchandising.

C. B. Lewis of Riverton has been elected president of the new association, with R. H. Allen of Glassboro as vice-president and C. William Haines of Masonville, secretary.

MARYLAND—Examination this year of experimental trials conducted in 1939 with commercial weed killer preparations known as Atlacide, Vegicide and Triox show that they are effective in controlling poison ivy in apple orchards and non-injurious, apparently, to tree roots and trunks. Apple leaves, however, suffer burning if hit by the chemicals.

The preparations are sprayed on the ivy during July or August at the rate of one pound per gallon of water and about one gallon per tree, at 75 pounds pressure. Cost is eight to 10 cents per tree, not counting labor. In a Virginia orchard recently sprayed with Atlacide at the rate of one and one-half pounds per gallon at 150 pounds pressure complete kill of the ivy was obtained.—A. F. VIERHELLER, Sec'y, College Park.

UTAH—A Federal marketing agreement for the Utah peach industry became effective on July 24, in time for the Washington county or "Dixie" growers to ship their peaches under the agreement. Joseph W. Jensen, grower from Roy, was elected chairman of the administrative committee; E. O. Muir, shipper from Salt Lake City, was selected vice-chairman; and J. George Stratton, grower from Provo, secretary. Moses L. Holbrook, State Department of Agriculture marketing specialist, was selected as manager. Members serve for one year, and elections are held each winter or spring.—A. STARK, Sec'y, Provo.

MICHIGAN—By using modern building materials Thomas Moss, Ravenna fruit grower, was able to save \$2600 on his 5000-bushel air-cooled apple storage. The type of building on which he first obtained figures would have cost him \$4000. In consulting A. J. Bell, specialist in agricultural engineering at Michigan State College, Bell suggested construction of a laminated rafter type which has cost Mr. Moss \$1400.



During a recent summer meeting at the fruit farm of Frank W. Richardson (second from right) near Rising Sun, Del., Dr. K. J. Kadow (right), newly appointed acting head of the University of Delaware Department of Horticulture, kept busy explaining experimental work at the farm to T. J. Winter, Laurel (left), and Ralph W. Wine, Woodside.

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LOOKING AHEAD

IF TOTALITARIANISM WINS

(Continued from column 1, page 7)

It is possible that a Europe so dominated would turn to Latin America countries and other surplus-producing areas, offering her industrial products in exchange for agricultural products and raw materials.

Announcements from Germany suggest that we as an exporting country would be dealing, not with independent firms and individuals in Europe buying agricultural products from us, but with a totalitarian government or institutions acting for it. This would constitute a colossal concentration and regimentation of trade, beyond anything we have yet experienced.

INFLUENCE OF DEFENSE PROGRAM

(Continued from column 3, page 7)

complished for national defense by utilizing some of our plant capacity, labor and other resources, as yet not fully employed, and by increasing the tempo of our economic machine, without reducing the standard of living of the people as a whole.

But the requirements of defense—and these requirements must now come first in our economic calculations—may conceivably become so great as to crowd against the present limits of our productive capacity. Then we shall have to draw up our belts, as it were; live less well and work harder—all to the end that we may be ready to defend our right to live as a free people and to strive for higher prosperity under our free institutions.

THE CASHEW NUT

THE cashew nut is not grown commercially in the United States, as the trees are very susceptible to frost. Extensive importations, the bulk of which come from British India, and a few from Haiti and elsewhere, make this nut of considerable competitive importance to American nut growers. Importations for the year ending June 30, 1936-37, totaled 25,501,000 pounds, or nearly eight times as many as were imported seven years previously. This great increase is due largely to improved methods of shipping and storage.

The cashew tree, which belongs to the same botanical family as the sumach and poison ivy and grows wild in the American tropics, is a handsome evergreen tree or large shrub.

The nuts are borne at the ends of fleshy peduncles which grow in clusters and have much the same form, color and size as apples or short pears. The color is bright red, yellow or intermediate and the surface smooth. The flesh is hard, stringy and juicy. The juice is used as a refreshing drink. The nut, which is smooth and kidney-shaped, is encased in double shells between which there is an oily liquid. This liquid, which is acid and poisonous, must be dispelled by heat in the preparation of the nut for market.

The bark of the tree yields a milky juice which is used in controlling insects and as an indelible writing ink. The kernel of the nut yields a much-prized salad oil.

A cashew industry is developing slowly in the West Indies and in the Philippine Islands, where attempts are being made to produce and propagate improved varieties. —GEORGE L. SLATE, Sec'y, Northern Nut Growers' Assn., Geneva, N.Y.

SEPTEMBER, 1940

CUTTING BACK YOUNG APPLE TREES

(Continued from page 8)

starting. The mortality increased as the season advanced, with trials extending until the first of June. The later the cutting back in the spring, therefore, the less likely the tree is to produce satisfactory sprouts to continue its growth and development. Young trees already established, after one or two years' growth in their permanent location, respond more readily to cutting back, with a considerably higher percentage of successful sprouts arising from the stumps, than trees cut back at the time of planting or shortly after. This was particularly noticeable in the trees that were cut back after being injured by rabbits.

In most plantings, it has been found that anywhere from five to 10 per cent or more of the young trees may be classed as unsatisfactory in growth for the first year or two. A study, therefore, was made regarding the advisability of cutting back trees that for some reason fail to make a good growth.

The results show that in practically every instance the so-called weak or stunted trees when cut back were invigorated greatly. When compared to similar untreated trees, the "cut-backs" were observed to be superior in growth and development. After four years' growth, cut-back trees generally produced about as large tops as trees which were not treated.

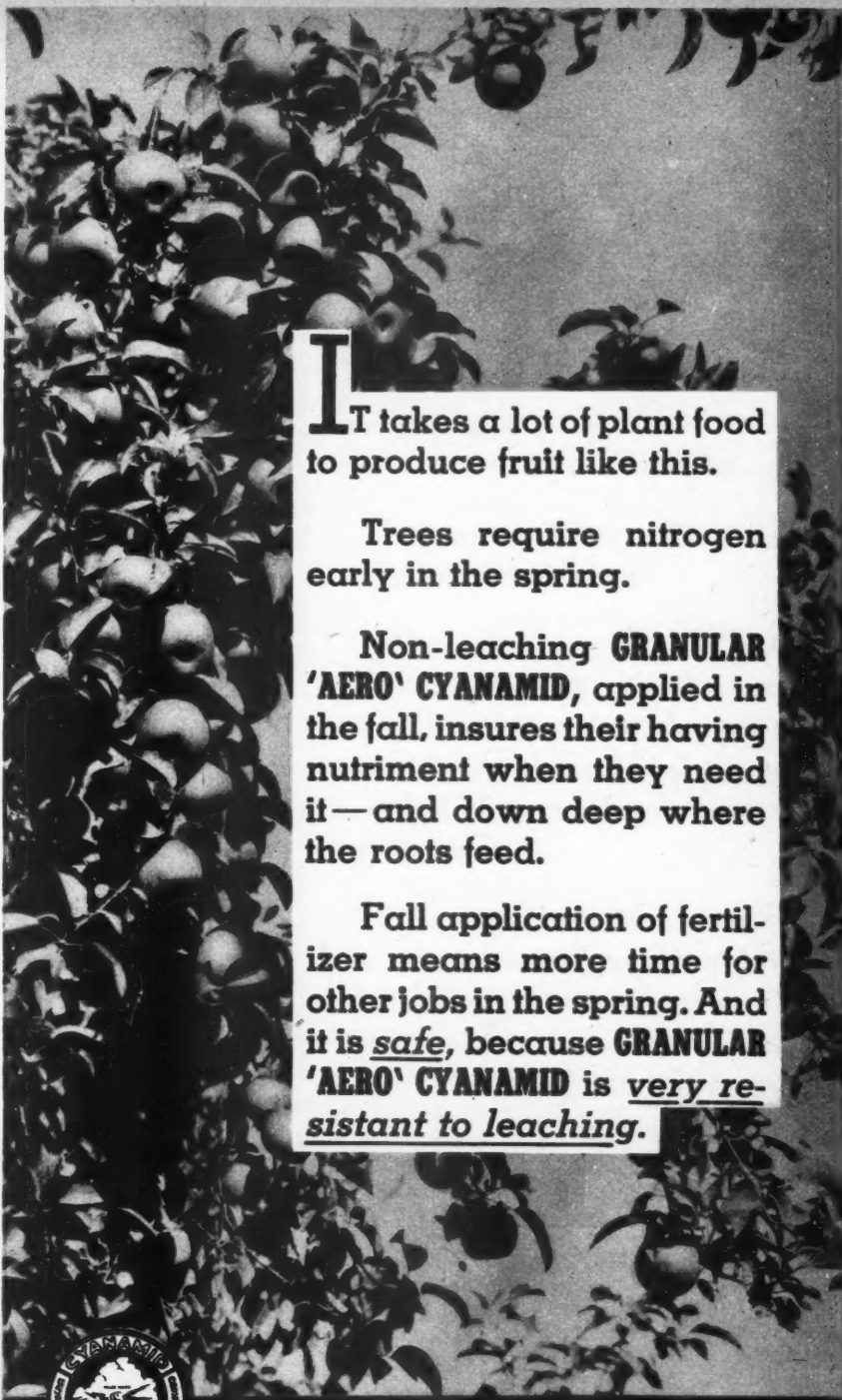
An attack of borers may slow up the growth of trees. This may be particularly true the season following transplanting because a comparatively weak growth may occur, especially in dry years. The results of this investigation indicate that when two-thirds or more of the base of the trunk just beneath the soil on one and two-year-old orchard trees is girdled, cutting back about four inches above the ground may be helpful. The work should be done early in the spring, and the sprout for the perpetuation of the variety should arise above the graft union.

Where a portion of the stem or stump is left above the union between the sprout and stump, it is usually well to recut the stump to facilitate healing at the juncture. The cut should be made in the crotch between the sprout and stump and on a downward slope or angle.

For two or three years following the operation, it was very apparent that the cut-back trees made more growth than the untreated trees. When the different lots of trees began to reach bearing age, 10 to 12 years, the cut-back trees were found to be on the average as early in coming into profitable fruiting as the

(Continued on page 15)

SEPTEMBER, 1940



IT takes a lot of plant food to produce fruit like this.

Trees require nitrogen early in the spring.

Non-leaching **GRANULAR 'AERO' CYANAMID**, applied in the fall, insures their having nutriment when they need it—and down deep where the roots feed.

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Pinkham's Compound is the best known and one of the most effective "woman's" tonics you can buy. Try it!

Note: Pinkham's Compound comes in liquid or handy to carry tablet form (similar formula).

PAGE 11

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CAMERA

AT SUMMER MEETINGS

APPROXIMATELY 800 growers gathered at Wooster on August 16 to attend the Ohio Experiment Station's Orchard Day and the State Horticultural Society's northern Ohio meeting which was held in conjunction with Orchard Day for the first time. Orchard tours and a disease and insect clinic highlighted the day's program. On August 7 at the Grand River Orchard near Geneva, Ohio, 200 northern Buckeye growers attended the annual tri-county horticultural meeting, which included a tour of the 250-acre orchard, inspection of the 75,000-bushel cold storage and an address by Dr. J. H. Gourley, president of the Ohio State Horticultural Society.

Top, right—Prof. F. N. Fagan, Pennsylvania State College, spoke at Wooster concerning lowering production costs without reducing yield and grade.

Right—W. H. Matthews, Salem apple grower, looks over booklet distributed at the Orchard Day meeting. Matthews' son, L. J., manages the orchard at Salem.



After the day's program at Wooster, these visitors discussed current topics. Left to right: A. C. Secrest, Columbus; Frank Adams, E. Palestine; W. Dale Hilbish, Columbus; F. N. Fagan, Pennsylvania State College; H. L. Mantle, Painesville; E. C. Cotton, Elyria.



Tom White examines a spray record sheet at the Grand River Orchard. One of the most popular fruit growers in Little Mountain, White recently donated a 90-acre farm for a 4-H camp at Windsor, Ohio.



W. T. Mann, left, owner of the 250-acre Grand River Orchard at Geneva, discusses the apple crop with L. G. Dean, orchard manager, at the recent well-attended tri-county meeting.



NEW

By HANDY ANDY

"DEEP-FREEZE" LOCKER •

The commercial or central cold storage locker in which sub-zero temperatures are maintained has been widely accepted by over a million families as a means of storing food products for a long period of time. It has made it possible for the farmer and fruit grower to freeze meats, poultry, fish, fruits and vegetables at such times during the year when these products are in their



prime and to store them in their frozen condition for use when and as needed.

To supplement the commercial sub-zero lockers and to take care of those families without commercial deep-freeze facilities, a household frosted food locker has been introduced by the Motor Products Corporation. The "Deep-Freeze," as this portable unit is called, is built in one and two-barrel capacity. It consists of an upright cylinder with the compressor housed under a small hood, as can be seen from the illustration, and the entire outfit has a white refrigerator-type finish. Embodying a new principle in refrigerator engineering, the entire food chest is surrounded by circulating Freon refrigerant. For this reason, the manufacturers claim, the unit is able to maintain zero temperature with a power load which is about the same as that of an ordinary refrigerator.

FENCE-POST TREATMENT •

A method of treating fence posts using zinc chloride and old inner tubes, developed by the U. S. Forest Products Laboratory, is said to be the simplest in way of preparation of any preservative treatment for posts.

The treatment costs about 10 cents a post for the granular zinc chloride. A pound of the chemical, mixed with nine parts of water, is required for a seven-foot post, averaging five inches at the middle inside the bark. Treatment takes place overnight for the softer woods, but may take two or three days for elm, hard maple and hickory. Unpeeled green round posts are used, and can be treated the same day they are cut.

The butt end of the post is peeled a few inches, a coating of axle grease is smeared over the edge of the bark and a two to three-foot section of old tire tube is slipped over the end of the post, then bound to it. The post is raised upright and into the tube is poured the solution of chemical and water, which runs through the post. After treatment,

- "DEEP-FREEZE" LOCKER
- FENCE-POST TREATMENT
- INFORMATIVE BOOKLETS
- SMALL-SIZE DIESELS

the posts are laid aside for about two weeks and then a coat of asphalt or creosote paint or tar is spread over the ends of the posts. The posts are then ready to set, with the bark left on.

INFORMATIVE BOOKLETS •

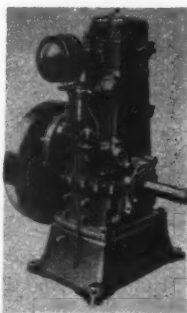
Condensation in basements, equipment and tool sheds, storage rooms for spray and fertilizer materials and similar places, is a problem on many fruit farms. A simple and effective method of reducing the humidity in such places with calcium chloride is explained in a new folder just issued by the Solvay Sales Corporation.

A series of photos show how calcium chloride absorbs moisture from the air, thus protecting records, tools, equipment and materials from the mold, mildew and warping associated with excessively humid air. What calcium chloride is, how to use it, where to use it and the quantity required are explained. A simple container for exposing calcium chloride to the air is described and illustrated, and the literature also contains suggestions covering use of calcium chloride with this container.

The folder, entitled, To DRY Air, will be sent upon request.

HOW TO SELECT AND INSTALL A WATER SYSTEM has been published by The Deming Company for the purpose of assisting prospective purchasers to avoid common mistakes in the selection and installation of pumps and water systems. Growers contemplating the installation of an automatic water supply system will materially profit from a careful study of the suggestions contained in the booklet, free for the asking, which covers many types of pumps, storage tanks, accessories and pump parts, estimating water requirements, pipe friction, atmospheric pressure, etc. Detailed views of pump installations will be of help to the prospective purchaser.

SMALL-SIZE DIESELS •



The need of economical, reliable power in a compact unit will cause growers to investigate the new line of diesel engines made by the Stover Manufacturing and Engine Company in 7½, 10, 15 and 20 horsepower capacities. Equipped with a "Lanova" combustion chamber, the manufacturers claim their new engines develop more power per cubic displacement and per pound and are sold at proportionately lower cost. Additional advantages are smoother operation and more economical operating cost. The two smaller diesels are single cylinder while the 15 and 20 horsepower models are of the twin cylinder type. All four models are available with a variety of mountings. The illustration shows a conventional stationary type of mounting. The twin cylinder models have No. 1 Bell housing with enclosed fly-wheel.

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17 DRAWBAR H. P.
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FROM A CRAWL TO
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on both tracks makes it possible for Mr. Anzalone to take his load of 62 boxes of choice grapes out of his hillside vineyard without danger of upsetting—without damage to vines and under full control. Only Cletrac has controlled differential steering. The Cletrac Model HG delivers on most farms in the United States for about \$1,000. (State and local taxes extra). Three widths—31", 42", 68"—make this Cletrac ideally suited for farm work. Your Cletrac dealer will demonstrate.

Mr. Joe Anzalone of Highland, New York owns and operates an 80-acre farm, all on a steep side hill and all in vineyards and orchard. Says Mr. Anzalone, "I tried all makes of tractors, but none would work under my conditions but the Cletrac. I like my Cletrac fine and can't get along without it. I used to use horses to draw my grapes, taking out 22 boxes each trip. By using my Cletrac HG, I take out a load of 62 boxes at one time." Controlled differential steering with power

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PROMOTING SALES OF SURPLUS FRUIT

WIVES of fruit growers could profitably follow the advice given by Mrs. Jessie H. Anderson of Kentucky on developing a local market for surplus fruit.

Mrs. Anderson says: "In finding a local market for our surplus fruits, I begin early in the season, before the first apples come on the market, by asking the grocers we deal with most regularly to keep me in mind and handle as much of my fruit as they can.

"I follow this up by taking the first attractive fruits our orchard produces even though the quantity is so small that the grocer buys by the pound. I try to sell to several buyers on one trip and have each one handling small amounts so there is a rapid turnover of attractive, sound fruit. For example, on one trip I sell to the jailer, the druggist, the hotels, even the dry goods merchant, as well as making the rounds of the groceries.

"In this way I keep a market waiting to welcome me from trip to trip and from season to season and receive a satisfactory price all through the summer."

NUT GROWER USES LATEX TO COVER GRAFTING WOUNDS

"DURING the month of May," writes nut grower George H. Corsan of Ontario, "I used latex (60 to 62 per cent liquid rubber) instead of grafting wax for protecting grafting wounds on my nut trees. I also use latex in August to bud trees and have had splendid success budding English walnuts on black walnuts. I have had no success budding hickories and fair success grafting the hickory on hickory, hican and pecan."

Recounting some of his experiences with nut trees, Grower Corsan says that, "Personally I like the hybrid native butternut x Japanese heartnut best of all for

This is a page where growers get together for an exchange of experiences and ideas. Both the beginner and veteran will find here many valuable suggestions for better and more profitable fruit growing. In return for helps you receive from this page, pass on your new ideas, methods or procedures. Just jot them down and mail to **ROUND TABLE EDITOR, AMERICAN FRUIT GROWER**. One dollar will be paid for each item published.

eating, beauty of tree, hardiness, regular annual cropping and ease of cracking." However, he goes on to state that the nut of all nuts for quick, large crops and excellent flavor is the Winkler hazelnut. "Nuts often appear the first year of planting, though, of course, they are far from full size."

Mr. Corsan adds that the Pomeroy English walnuts that sold everywhere before 1934 as a very hardy variety of *Juglans regia* are quite tender in Ontario and freeze down to the ground most winters. "This last winter, of some 100 varieties of English walnuts from Russia, five varieties froze back a foot of twig growth, some 40 varieties froze back an inch and the other 55 varieties suffered no winter injury after last winter's severe weather."

GROWS CUTTINGS BY NEW METHOD

"I BUILD a board frame 10 inches wide and 12 inches deep and place it in the ground about three inches below the sur-

face," writes Reynold DeChant of Ohio about his method of growing grape cuttings.

"I fill the bottom of the frame with about a three-inch-thick layer of slag or small rocks, then I lay the cuttings against each side of the frame and fill it with ground, packing it firmly.

"The cuttings need very little watering because rain will run into the sunken frame. In extreme dry weather a little water will help. A top mulch of straw also helps.

"The advantage of this frame is that it holds in the roots so that in ordinary digging they are not broken off. Also, the layer of rocks makes possible proper drainage and an even supply of water in the bottom of the frame which makes for strong and vigorous roots.

"Removal of the frame permits easy digging of the plants."

GIVES ADVICE TO CHERRY GROWERS

"I WORK for a large barreling plant that barrels thousands of barrels of cherries for the maraschino cherry trade," writes Walter Gorsline of Oregon, who is an orchard inspector in the summer and a pitting inspector in the winter.

"Orchard inspectors are sent out from the plant in order to help cherry growers get as much as possible out of their crops. Pickers are instructed to leave out cherries with no stems, crushed cherries and bruised cherries. But the grower usually believes that the barreling plant is too particular and he remarks that a cannery will take them 'orchard run'.

"The grower doesn't realize that only cherries with stems can be made into cocktails and that cocktails are the highest priced cherries. He also doesn't realize that the cherries are soaked in a sulphur dioxide bleaching brine for 90 days which gets into the cracked cherries and splits them, making them No. 3 cherries, just a grade above cull cherries. Bruise spots do not disappear with brining but show up as dark brown spots and make the cherry a No. 3 or a cull.

"The grower must also learn that cherries picked in the morning and left until late afternoon for delivery shrivel because of the sun and the heat. It is better to make more trips and get better grades and better prices rather than allow a big load of cherries to be rated down to a poor grade.

"Each lot of cherries is stamped with the grower's name so that the barreling company will know which growers deliver poor cherries after the brining process shows up bruises, cracks, etc.

"The grower will also find that if he hires experienced pickers his cherries will test a higher grade. Maraschino cherries are picked greener than cherries for canneries. Some growers also make a mistake in hiring too few pickers. Before these pickers can get over the orchards, the cherries farthest away from the pickers have ripened so that they are beyond the barreling stage, and a great loss is suffered."

STREAMLINED ROADSIDE STAND ATTRACTS BUYERS



A permanent roadside market. Note the effective "name" sign, mass display of produce and adequate parking space. Panels on front and rear side of building are removable so that the whole store may be opened up. Photo courtesy Kansas Agricultural Experiment Station.

CUTTING BACK YOUNG APPLE TREES

(Continued from page 11)

non-cut-backs. With trees three to four years old, when cut back it was found that they were delayed in coming into bearing when compared to untreated trees. When the trees were cut back after the first or second years' growth in the orchard, however, little or no difference was observed in time of coming into bearing. Both treated and untreated trees were given light annual top prunings.

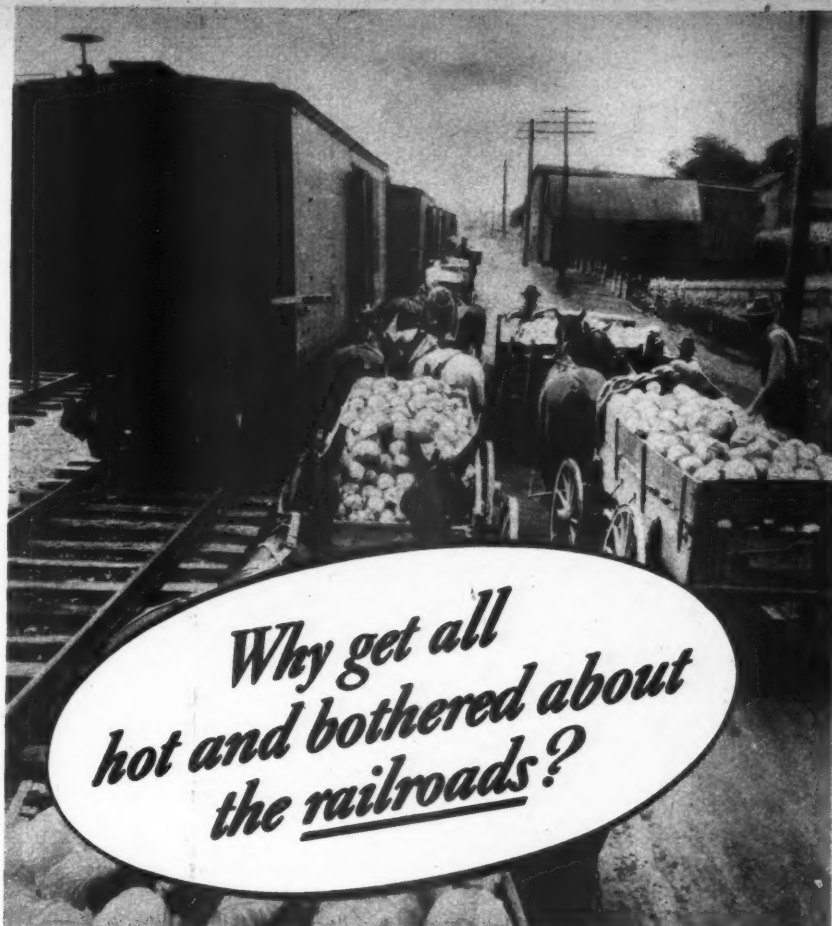
Cutting back at planting time appeared to affect one-year-old trees less than those two years old. A larger percentage of the one-year-old trees produced satisfactory sprouts from the stubs or stumps. The shock was not so great for the younger trees, and they seemed to overcome it in less time. In growth and development by the end of the fourth year after treatment, the cutting-back effect seemed to have disappeared in most of the trees.

During the course of the investigations, comparatively small numbers of other fruit trees, including young pear, peach and plum, were subjected to the cutting back treatment. The study also included such shade trees as Carolina poplar, tulip, native river birch and several different kinds of our native oaks.

The effect on pear trees particularly was like that on apple trees, and the response of the other fruit trees to the treatment was not materially different from that of the apple. Moreover, the observations regarding the effect on the branching habit, vigor and time of coming into bearing was, in general, quite similar to the results produced in the case of young apple trees. The treatment was found to be especially applicable, in the early years of growth, to weakened, stunted and trunk-injured fruit trees.

In general, the effect of cutting back stunted and trunk-injured shade trees was beneficial. Stockier and more vigorous trees were usually produced. The effect upon the branching habit was similar to that described for the apple. Moreover, the cut-back trees suffered much less from borer attack than untreated trees. The treated shade trees developed rapidly and in four or five years were about as large in trunk and top growth as the uncut-back ones.

If only 10 to 25 per cent of the 812,000 tons of candy consumed yearly in the United States were fruit candy, an important market for surplus fruits would be opened, states Dr. W. V. Cruess, head of the University of California Fruit Products Laboratory.



*Why get all
hot and bothered about
the railroads?*

MOST of the men who publish successful farm papers have to be pretty level-headed observers of farming and all the things which affect it. When one of these publishers, W. J. Allen, of the *Dakota Farmer*, took a look at the railroad situation, he asked himself this question:

"Why get all hot and bothered about the railroads? The trains are running, pretty well on time; passengers are being handled safely, in far more comfort and at lower fares than formerly; freight is being handled more rapidly over long distances than ever before; . . . the public seems to be getting right well served—why stew?"

Having asked this question, Mr. Allen answered it. And here's what he said:

"Because the hard fact is that the combination of circumstances and conditions has made a great many of the roads lose money; they can't continue that forever and also, continue to operate properly; and the roads are absolutely essential to the Dakotas. Their welfare is of vital interest to Dakotans. Is it necessary to prove that? . . . Not

to anyone who has a real conception of the tonnage that must be moved into and out of Dakota, if people are to stay here and thrive, and which must move by rail."

You can substitute any other farm section for the Dakotas, and these same statements will apply. American farmers need the railroads—and the railroads need the farmers' friendship and support.

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